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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,885	12/07/2001	Yuji Aburakawa	216890US2	7571

22850 7590 04/07/2005

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EXAMINER

NGUYEN, KHAI MINH

ART UNIT PAPER NUMBER

2687

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/004,885

Applicant(s)

ABURAKAWA ET AL.

Examiner

Khai M Nguyen

Art Unit

2687

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-14 is/are allowed.
- 6) ☒ Claim(s) 15-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/8/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's argument with respect to claim 1-21 have been considered but are moot in view of the new ground(s) of rejection.

### ***Information Disclosure Statement***

2. The references listed in the Information Disclosure Statement filed on March 8, 2005 have been considered by the examiner (see attached PTO-1449 form or PTO/SB/08A and 08B forms).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamilton-Piercy et al. (U.S.Pat-5802173) in view of Johnson et al. (U.S.Pat-6497599).

Regarding claim 15, Hamilton-Piercy teaches a switching apparatus in a mobile communication system including a plurality of base stations (abstract, col.3, lines 9-20, *a large number of radio base stations (RBS) need to be deployed over a substantial area to support adequate radio access for general public*) and a control station which controls

said base stations (col.2, line 55 to col.3, line 8), each of said base stations and said control station having said switching apparatus, said switching apparatus being connected to another switching apparatus via a wireless circuit or an optical fiber circuit (fig.1, col.10, lines 34-57), said switching apparatus comprising;

a wireless signal receiving part configured to receive a first signal via a wireless circuit (col.1, lines 4-11, col.7, line 36 to col.8, line 25);

an optical signal receiving part configured to receive a first signal via an optical fiber circuit (col.1, lines 4-11, col.7, line 36 to col.8, line 25, col.8, lines 53-67); and

a demodulation part configured to demodulate said first signal when received by the wireless signal receiving part or the optical signal receiving part (fig.9, col.12, line 50 to col.13, line 2, col.13, lines 10-24).

Regarding claim 16, Hamilton–Piercy teaches the switching apparatus as claimed in claim 15, further comprising a switching part configured to switch an output destination of said first signal to a demodulation part (fig.9, 12, col.7, line 36 to col.8, line 3, col.16, lines 5-41, col.32, lines 38-46).

Regarding claim 17, Hamilton–Piercy teaches the switching apparatus as claimed in claim 16, wherein said switching part switches said output destination of said first signal according to a frequency of said first signal (col.5, line 56 to col.6, line 21, col.7, line 36 to col.8, line 3).

Regarding claim 18, Hamilton–Piercy teaches the switching apparatus as claimed in claim 15, further comprising a selection part configured to select a second signal (col.4, lines 14-24) and outputting said second signal to said demodulation part when a plurality of signals are received (col.4, lines 14-24, col.5, line 56 to col.6, line 21, *regardless of how channel allocations and reallocations for these radio links are determined and supervised, the actual signal handling involved in transferring signal to, from and between selected channels is performed by the base stations*).

Regarding claim 19, Hamilton–Piercy teaches the switching apparatus as claimed in claim 15, further comprising a frequency control part configured to control said demodulation part such that said demodulation part can demodulate said first signal according to a frequency of said first signal (col.2, line 55 to col.3, line 20, col.7, line 36 to col.8, line 3).

Regarding claim 20, Hamilton–Piercy teaches the switching apparatus as claimed in claim 15, further comprising:

a variable directional antenna configured to receive said first signal from said wireless circuit and outputting said first signal to said wireless signal receiving part (fig.9-12, abstract, col.7, line 36 to col.8, line 3, col.32, lines 17-46);

a beam forming part configured to direct said variable directional antenna to an antenna of a base station or a control apparatus in a sending side (fig.9-12, abstract, col.32, lines 17-46).

Regarding claim 21, Hamilton–Piercy teaches the switching apparatus as claimed in claim 20, wherein said beam forming part directs said variable directional antenna to an antenna according to a frequency of said first signal (fig.9-12, abstract, col.7, line 36 to col.8, line 3, col.32, lines 17-46).

***Allowable Subject Matter***

4. Claims 1-14 are allowed.

The following is an examiner's statement of reasons for allowance: Prior art teaches a mobile communication system including a plurality of base stations, a control station which controls said base stations, and switching apparatuses each of which is a part of one of said base station or said control station, wherein said switching apparatuses are connected with each other by a wireless circuit or an optical fiber circuit, said switching apparatus in a sending side. However, the prior art fails to teaches a modulation part configured to modulate a first signal into a second signal of a unified transmission form, a first switching part configured to switch an output destination of said second signal from said modulation part according to a sending destination of said second signal, and a wireless signal transmission part configured to send said second signal from said first switching part to a base station or a control station in a receiving side via a wireless circuit, an optical signal transmission part configured to send said second signal from said first switching part to a base station or a control station in a receiving side via an optical fiber circuit, and said switching

apparatus in a receiving side comprising: a wireless signal receiving part configured to receive a third signal via a wireless circuit, an optical signal receiving part configured to receive a third signal via an optical fiber circuit, and a demodulation part configured to demodulate said third signal.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Citation of Pertinent Prior Art***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Johnson et al.** (U.S.Pat-6497599) discloses Channel reuse patterns in a mobile communications system.

**Ehreth** (U.S.Pat-5982854) discloses Fiber optic based subscriber terminal.

**Meyerson et al.** (U.S.Pub-20030059039) discloses Modular multi-media communication management system with an integrated service for wide area network wireless telephones.

**Imajo et al.** (U.S.Pat-6807374) discloses Mobile communication system.

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M Nguyen whose telephone number is 571.272.7923. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on 571.272.7922. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Khai Nguyen  
Au:2687

4/2/2005

  
**SONNY TRINH**  
**PRIMARY EXAMINER**